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DERWENT-ACC-NO: 2001-496721
DERWENT-WEEK: 200154

TITLE: Nucleic acids encoding conserved essential genes involved in bacterial replication which are potential targets for the treatment of antibiotic resistant bacterial infections

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200149721 A2	July 12, 2001	E	380	C07K014/195
AU 200143006 A	July 16, 2001		000	C07K014/195

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 200149721A2	December 29, 2000	2000WO-US35604	
AU 200143006A	December 29, 2000	2001AU-0043006	
AU 200143006A		WO 200149721	Based on

INT-CL (IPC): A61 K 38/16; A61 K 48/00; C07 K 14/195; C12 N 15/31; C12 Q 1/68; G01 N 33/50; G01 N 33/68

ABSTRACTED-PUB-NO: WO 200149721A
BASIC-ABSTRACT:

NOVELTY - Nucleic acids encoding polypeptides essential for the viability of a bacterial cell wall and having various defined functions, vectors, host-vector systems, polypeptides, fusion polypeptides, and various ligands binding the polypeptides are new.

DETAILED DESCRIPTION - The nucleic acid (A) encodes a polypeptide which has at least one function selected from: pantothenate kinase, a Holliday Junction branch migration protein, a single stranded DNA binding protein, a phosphoglucosamine mutase, an acetyltransferase, a uridylyltransferase, a malonyl Coenzyme A:ACP transcylase, a 3-oxoacyl-ACP synthase II, a 3-oxoacyl-ACP reductase, a phosphomethylpyrimidine (HMP-P) kinase, a GTP binding protein, an ATP binding protein, or a 4-aminoimidazole carboxylase, and the nucleic acid is one of 113 defined sequences or complementary sequences, and may be DNA or RNA or may be labeled with a detectable marker selected from radioisotopes, fluorescent compounds, bioluminescent compounds, chemiluminescent compounds, metal chelators and enzymes. The encoded polypeptide is essential for the viability of a bacterial cell wall and may be a designated CFE 1-117, or may be a fusion polypeptide.

INDEPENDENT CLAIMS are also included for the following:

(1) a vector (B) comprising (A);

(2) a host-vector system (C) comprising (B);

(3) an isolated polypeptide (D) which is essential for the viability of a bacterial cell comprising one of several defined amino acid sequences;

(4) a method for producing (D) comprising culturing (C);

(5) ligands (E) which bind (D);

(6) a method for detecting (D) in samples using (E);

(7) a method for detecting defined target nucleic acids using complementary nucleic acids;

(8) pharmaceutical compositions comprising the nucleic acids, polypeptides, or ligands;

(9) a method for determining whether a genomic nucleotide sequence of interest is essential for viability of a bacterial cell, comprising integrating an exogeneous nucleotide sequence comprising a portion of an open reading frame of the genomic sequence of interest into the genomic sequence of interest and determining whether the cell having the integrated genomic nucleotide sequence is viable;

(10) an isolated nucleotide sequence essential for the viability of a bacterial cell;

(11) a bacterial cell comprising an exogeneous nucleotide sequence integrated into the genomic nucleotide sequence;

(12) a method for determining whether a genomic nucleotide sequence of interest resides within an operon, comprising integrating an exogeneous nucleotide sequence lacking an expression regulatory sequence into the genomic sequence of interest and determining whether the cell having the integrated genomic nucleotide sequence is viable; and

(13) a method for inhibiting a function of a conserved essential gene (CEG) polypeptide which is essential for the viability of a bacterial cell by contacting with (E).

ACTIVITY - Antibacterial.

No suitable biological data is given.

MECHANISM OF ACTION - Vaccine; gene therapy; antisense therapy.

USE - The nucleic acids are useful for detecting the presence of polypeptides essential for the viability of a bacterial cell wall in samples such as cells, tissues, biological fluids, blood, serum, nose, ear or throat swabs with ligands, and for detecting corresponding target nucleic acid molecules with complementary sequences. For determining whether a genomic nucleotide sequence of interest is essential for viability of a bacterial cell or whether it resides within an operon, by integrating an exogeneous nucleotide sequence comprising a portion of an open reading frame of the genomic sequence of interest (comprising 200-500 base pairs) into the genomic sequence of interest which confers a selectable phenotype to the cell, and determining cell viability with a selection agent such as chloramphenicol. For inhibiting conserved essential gene (CEG) polypeptide functions and for identifying ligands which bind CEG polypeptides in samples (claimed). As vaccines and for treating bacterial infections with gene therapy and antisense therapy.

ADVANTAGE - The nucleic acids enable identification of targets suitable for the treatment of antibiotic resistant bacterial infections.

ABSTRACTED-PUB-NO: WO 200149721A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/25

DERWENT-CLASS: B04 D16 S03

CPI-CODES: B04-E03F; B04-E08; B04-F1000E; B04-N03A0E; B06-D01; B06-D05; B06-D17; B07-D05; B07-D12; B10-A08; B10-A17; B11-C07A; B11-C08E; B12-K04A4; B14-A01; D05-C11; D05-H04; D05-H09; D05-H12A; D05-H12E; D05-H14; D05-H14A1;
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